

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.116 - EXPEDITED PROCEDURE

Serial Number: 10/053,003

Filing Date: January 17, 2002

Title:

THREE-DIMENSIONAL COMPLETE BANDGAP PHOTONIC CRYSTAL FORMED BY CRYSTAL MODIFICATION

Page 11

Dkt: 1303.042US1

REMARKS

This paper responds to the Office Action mailed on March 17, 2005.

Claims 1, 9, 16, 23, 29, 38, 43 are amended. Claims 1-58 remain pending in this application.

Objection to the Taking of Office Notice

The Office Action uses only a single reference (John et al.) to reject all of the claims of the present application under 35 USC § 103(a). The Office Action states that the sole difference between the claims of the present application and John et al. is the formation along the imaginary bond. In rejecting the claims of the present application, the Office Action states that

it would have been obvious to one of ordinary skill in the art to determine through routine experimentations the optimum, operable means to orientate the 3-D photonic crystal in the John et al. reference in order to create the desired optical properties as the reference does teach different orientation create different 3-D photonic crystal. (Office Action, pages 2-3)

The Office Action further states that:

it would have been obvious to one of ordinary skill in the art to determine through routine experimentations the optimum, operable means to create voids and determine the second voids in the John et al. reference in order to produce a uniform voids creating uniform bandgaps. (Office Action, page 3)

Since the Office Action uses only a single reference to reject the claims of the present application under 35 USC § 103(a) without offering documents to support the rejection of some specific features recited in these claims, Applicant assumes that the Examiner is taking Official Notice in rejecting the specific features in these claims. Applicant respectfully traverses the taking of Official Notice and, pursuant to M.P.E.P. § 2144.03, Applicant requests documents to support the rejection of the specific features recited in these claims. In the absence of documents to support the rejection, Applicant requests reconsideration and withdrawal of the rejection, and allowance of the claims of the present application.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.116 – EXPEDITED PROCEDURE

Serial Number: 10/053,003

Filing Date: January 17, 2002

Title: THREE-DIMENSIONAL COMPLETE BANDGAP PHOTONIC CRYSTAL FORMED BY CRYSTAL MODIFICATION

Page 12
Dkt: 1303.042US1§103 Rejection of the Claims

Claims 1-23, 25-29, 31-34, 37, 38, 40-43, and 45-58 were rejected under 35 U.S.C. § 103(a) as being unpatentable over John et al. (Journal of Lightwave Tech.).

Applicant respectfully traverses.

Notwithstanding the objection to the taking of Official Notice presented above, Applicant believes that the claims of the present application are patentable over John et al. for the following additional reasons.

Independent claim 52 recites, among other things, "the first voids are completely separated from each other by a first portion of the substrate" and "the second voids are completely separated from each other by a second portion of the substrate". Applicant is unable to find in John et al. "the first voids are completely separated from each other by a first portion of the substrate" and "the second voids are completely separated from each other by a second portion of the substrate". Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 52.

Dependent claims 53-58 depend from claim 52 and recite the things of claim 52. Thus, claims 53-58 are also patentable over John et al. for reasons at least similar to the reasons presented above regarding claim 52, plus the things recited in these dependent claims 53-58. Therefore, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claims 53-58.

Independent claim 1 is amended and recites, among other things, "the first voids are completely separated from each other by a first portion of the substrate" and "the second voids are completely separated from each other by a second portion of the substrate and completely separated from a third portion of the substrate". Applicant is unable to find in John et al. "the first voids are completely separated from each other by a first portion of the substrate" and "the second voids are completely separated from each other by a second portion of the substrate and completely separated from a third portion of the substrate". Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 1.

Dependent claims 2-8 depend from claim 1 and recite the things of claim 1. Thus, claims 2-8 are also patentable over John et al. for reasons at least similar to the reasons presented above

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.116 - EXPEDITED PROCEDURE

Serial Number: 10/053,003

Filing Date: January 17, 2002

Title:

THREE-DIMENSIONAL COMPLETE BANDGAP PHOTONIC CRYSTAL FORMED BY CRYSTAL MODIFICATION

Page 13

Dkt 1303.042US1

regarding claim 1, plus the things recited in these dependent claims 2-8. Therefore, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claims 2-8.

Independent claim 9 is amended and recites, among other things, "the first voids are completely separated from each other by a first portion of the substrate" and "the second voids are completely separated from each other by a second portion of the substrate". Applicant is unable to find in John et al. "the first voids are completely separated from each other by a first portion of the substrate" and "the second voids are completely separated from each other by a second portion of the substrate". Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 9.

Dependent claims 10-15 depend from claim 9 and recite the things of claim 9. Thus, claims 10-15 are also patentable over John et al. for reasons at least similar to the reasons presented above regarding claim 9, plus the things recited in these dependent claims 10-15. Therefore, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claims 10-15.

Independent claim 16 is amended and recites, among other things, "the first voids are completely separated from each other by a first portion of the substrate" and "the second voids are completely separated from each other by a second portion of the substrate". Applicant is unable to find in John et al. "the first voids are completely separated from each other by a first portion of the substrate" and "the second voids are completely separated from each other by a second portion of the substrate". Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 16.

Dependent claims 17-22 depend from claim 16 and recite the things of claim 16. Thus, claims 17-22 are also patentable over John et al. for reasons at least similar to the reasons presented above regarding claim 16, plus the things recited in these dependent claims 17-22. Therefore, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claims 17-22.

Independent claim 23 is amended and recites, among other things, "the first voids are completely separated from each other by a first portion of the substrate" and "the second voids are completely separated from each other by a second portion of the substrate". Applicant is unable to find in John et al. "the first voids are completely separated from each other by a first

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.116 – EXPEDITED PROCEDURE

Serial Number: 10/053,003

Filing Date: January 17, 2002

Title:

THREE-DIMENSIONAL COMPLETE BANDGAP PHOTONIC CRYSTAL FORMED BY CRYSTAL MODIFICATION

Page 14

Dkt: 1303.042US1

portion of the substrate" and "the second voids are completely separated from each other by a second portion of the substrate". Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 23.

Dependent claims 25-28 depend from claim 23 and recite the things of claim 23. Thus, claims 25-28 are also patentable over John et al. for reasons at least similar to the reasons presented above regarding claim 23, plus the things recited in these dependent claims 25-28. Therefore, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claims 25-28.

Independent claim 29 is amended and recites, among other things, "the first voids are completely separated from each other by a first portion of the substrate" and "the second voids are completely separated from each other by a second portion of the substrate". Applicant is unable to find in John et al. "the first voids are completely separated from each other by a first portion of the substrate" and "the second voids are completely separated from each other by a second portion of the substrate". Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 29.

Dependent claims 31-34, and 37 depend from claim 29 and recite the things of claim 29. Thus, claims 31-34, and 37 are also patentable over John et al. for reasons at least similar to the reasons presented above regarding claim 29, plus the things recited in these dependent claims 31-34, and 37. Therefore, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claims 31-34, and 37.

Independent claim 38 is amended and recites, among other things, "the first voids are completely separated from each other by a first portion of the substrate" and "the second voids are completely separated from each other by a second portion of the substrate". Applicant is unable to find in John et al. "the first voids are completely separated from each other by a first portion of the substrate" and "the second voids are completely separated from each other by a second portion of the substrate". Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 38.

Dependent claims 40-42 depend from claim 38 and recite the things of claim 38. Thus, claims 40-42 are also patentable over John et al. for reasons at least similar to the reasons presented above regarding claim 38, plus the things recited in these dependent claims 40-42.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.116 - EXPEDITED PROCEDURE

Serial Number: 10/053,003

Filing Date: January 17, 2002

Title: THREE-DIMENSIONAL COMPLETE BANDGAP PHOTONIC CRYSTAL FORMED BY CRYSTAL MODIFICATION

Page 15

Dkt: 1303.042US1

Therefore, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claims 40-42.

Independent claim 43 is amended and recites, among other things, "the first voids are completely separated from each other by a first portion of the substrate" and "the second voids are completely separated from each other by a second portion of the substrate". Applicant is unable to find in John et al. "the first voids are completely separated from each other by a first portion of the substrate" and "the second voids are completely separated from each other by a second portion of the substrate". Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 43.

Dependent claims 45-51 depend from claim 43 and recite the things of claim 43. Thus, claims 45-51 are also patentable over John et al. for reasons at least similar to the reasons presented above regarding claim 43, plus the things recited in these dependent claims 45-51. Therefore, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claims 45-51.

Claims 24, 30, 35, 36, 39, and 44 were rejected under 35 U.S.C. § 103(a) as being unpatentable over John et al.

Applicant respectfully traverses.

Notwithstanding the objection to the taking of the Official Notice presented above, Applicant believes that the claims of the present application are patentable over John et al. for the following additional reasons.

Dependent claim 24 depends from independent claim 23 and recites the things of claim 43. Thus, claim 24 is also patentable over John et al. for reasons at least similar to the reasons presented above regarding claim 23, plus the things recited in the dependent claim 24. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 24.

Dependent claim 30 depends from independent claim 29 and recites the things of claim 43. Thus, claim 30 is also patentable over John et al. for reasons at least similar to the reasons presented above regarding claim 29, plus the things recited in the dependent claim 30. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 30.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.116 – EXPEDITED PROCEDURE

Serial Number: 10/053,003

Page 16

Filing Date: January 17, 2002

Dkt: 1303.042US1

Title: **THREE-DIMENSIONAL COMPLETE BANDGAP PHOTONIC CRYSTAL FORMED BY CRYSTAL MODIFICATION**

Dependent claims 35 and 36 indirectly depend from independent claim 29 and recite the things of claim 43. Thus, claim 35 and 36 are also patentable over John et al. for reasons at least similar to the reasons presented above regarding claim 29, plus the things recited in the dependent claims 35 and 36. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claims 35 and 36.

Dependent claim 39 depends from independent claim 38 and recites the things of claim 43. Thus, claim 39 is also patentable over John et al. for reasons at least similar to the reasons presented above regarding claim 38, plus the things recited in the dependent claim 39. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 39.

Dependent claim 44 depends from independent claim 43 and recites the things of claim 43. Thus, claim 44 is also patentable over John et al. for reasons at least similar to the reasons presented above regarding claim 43, plus the things recited in the dependent claim 44. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 44.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.116 - EXPEDITED PROCEDURE

Serial Number: 10/053,003

Filing Date: January 17, 2002

Title: THREE-DIMENSIONAL COMPLETE BANDGAP PHOTONIC CRYSTAL FORMED BY CRYSTAL MODIFICATION

Page 17

Dkt 1303.042US1

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612) 373-6969 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,


LEONARD FORBES

By his Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 373-6969

Date 18 May 2005

By


Viet V. Tong
Reg. No. 45,416

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop AF, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 18 day of May, 2005.

Name

KACIA LEE

Signature

Kacia Lee